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Abstract

Background: The fertility rate in Oman is high, as found elsewhere in Arab countries. The government of Oman has made considerable improvements in providing contraceptive methods in response to growing demand.

Aims: This study aimed to find out the prevalence of contraceptive usage and determine the sociodemographic determinants of its use among married Omani women.

Methods: A cross-sectional survey was carried out in 12 health centres which were randomly selected from each county (Wilayat) in Muscat region. A total of 400 women aged 18–49 years old who had not reached menopause were subjected to a face-to-face interview. Information was obtained on sociodemographic characteristics and family planning practice.

Results: Majority of women (n=397; 99.2%) had heard about family planning. More than half (n=225; 56.3%) knew about family planning and only three (0.8%) did not know its meaning. The contraceptive pill was the most common known method (n=383; 95.8%), while vaginal cream was the least recognized method (n=67; 16.8%). Most of the participants (n=307; 76.8%) reported previous use of these methods and 54% (n=214) were current users. Withdrawal was the most frequently used method (n=70; 32.7%) and breast-feeding was the least used method (n=3; 1.4%). Contraception use increased significantly with age (P

Conclusions: Health care providers play a key role in providing information and education about family planning. Efforts are recommended in educating couples and promoting the use of the different family planning methods.

Keywords: correlates, contraception, family planning, fertility, Oman

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Introduction

“Family planning allows people to attain their desired number of children and determines the spacing of pregnancies” (1); it is achieved through the use of contraceptive methods and the treatment of infertility. The contraceptive prevalence is “the percentage of women who are currently using, or whose sexual partner is currently using, at least one method of contraception, regardless of the method used. It is usually reported for married or in-union women aged 15 to 49” (2). Birth spacing and the use of contraception is of high importance for both mother and child. Studies have confirmed that healthy pregnancy timing and spacing are essential to improve infant and maternal health (3).

In Oman, the Birth Spacing Programme was initiated in 1994 and was considered a fundamental part of the country’s Maternal and Child Health (MCH) services. The main objective of the programme was to offer a variety of contraceptive methods to allow women to space births by three years or more, and thus improve the well-being of both child and mother. Birth spacing services are available through primary health care and extended health centres throughout Oman and form a crucial part of MCH services.

Muscat Governorate has 29 health centres and three polyclinics. Each of these health centres

serves a population of approximately 20 000 to 30 000 patients. The birth spacing clinics in these health centres are well developed in terms of a birth spacing register, appointment system and trained family physicians and nurses. The Ministry of Health (MoH) provides a wide range of free birth spacing methods to all Omani women who wish to plan their pregnancies, including condoms, hormonal contraceptives such as progesterone-only pills, combined oral contraceptive pills, injectables and implants, and intrauterine contraceptive devices. The provision and management of this service is regulated by a well-structured guidelines, the result of which the total fertility rate has dropped significantly from 7.84 before 1990 to 4.0 in 2016 (4–6). The current fertility rate is similar to a number of other countries of the region, but high compared to Europe and North America (7). In addition, other important health indicators have also dropped dramatically over the same period, including maternal mortality rate (from 22 to 13.4), infant mortality rate (from 29 to 9.2) and under 5 mortality rate (from 35 to 11.7) (6).

A study published in 2004 indicated that the unmet contraception need for Omani women was nearly 25% (8). This decreased significantly with educational level and employment (i.e. empowered women were more likely to use contraception). However, this study did not include the health information and demographics of women and if they are able to achieve their reproductive intentions (8). The current study therefore aimed to assess the prevalence of contraceptive usage and socio-demographic determinants of its use among married Omani women in Muscat region.

Methods

A multicentric, cross-sectional survey was carried out in the primary health centres from September 2014 to September 2015. There are six counties (Wilayat) in Muscat Governorate with a total of 29 health centres. The number of health centres varies from one county to another based on the size of the target population. The current study included 12 health centres, which were randomly selected from each county in Muscat Governorate. All married Omani women aged 18–49 years old who had not reached menopause, attending the health centres for various reasons, were subjected to a questionnaire by a face-to-face interview. Women who did not speak Arabic or English, those with learning difficulties, and those with no time to complete the questionnaire were excluded from the study.

Estimation of sample size

According to the 2010 census, women of reproductive age (15–49 years) constituted 28.9% of the Omani population. Census data provide the total population of each region without detailed age and sex distribution. The proportion of women of reproductive age has been estimated as 28.9% of the region’s population. The sample size (n) has been estimated using the Epi-info software [r]. The estimated number of women of reproductive age in Muscat Governorate is 125 678. The rate of contraception use (41.3%) among women exposed to the risk of pregnancy reported by previous studies [r] has been used to estimate the sample size with a degree of

precision (d) at 0.05 (8). The chosen level of confidence is 95% (Z0.05 = 1.96) and a design effect (DEFF) of 1. The applied equation using the Epi-info software was:

$$n = [DEFF*Np\ (1-p)]/\ [(d2/Z20.05*(N-1)+p*(1-p)].$$

The total sample size selected equaled 372 women. The number of women selected was proportional to the number of women in each region (Table 1).

Questionnaire and interview

A pre-tested and well-structured questionnaire was used by the authors for data collection. The questionnaire was validated and previously used in two similar studies in Jordan (9,10). The questionnaire is divided into two main sections; part one concerns the participants' and husbands' socio-demographic information such as age, level of education, duration of marriage, employment status, and total monthly income. The second part concerns family planning practice and current use of contraception, types used, duration of use, reasons for use, history of side effects, and attitudes towards contraceptive methods. The questionnaire was translated into Arabic and the authors, who are qualified physicians, conducted the face-to-face interviews, which took 15–20 minutes. The participants were selected from the waiting areas and briefed on the objectives of the study when eligible. The researchers were always available to respond to participants' inquiries and comments. A written consent with a statement of confidentiality was taken from all the participants and their privacy was maintained throughout. The study was anonymous and all participants were given a study number, which was used for data analysis.

Ethics approval

Ethical approval for the study was granted by the Medical Research and Ethics Committee of the College of Medicine and Health Sciences at the Sultan Qaboos University, Oman, and by the Research and Ethics Committee of the Directorate General of Health Services, Ministry of Health, Oman.

Statistical analysis

The data analysis was carried out using IBM SPSS statistics version 23. Descriptive statistics were used to describe the sample characteristics. For categorical variables, frequencies and percentages were reported. The Pearson's $\chi 2$ test (or Fisher's exact tests for low cell frequencies) was used to test significance when appropriate and a P-value ≤ 0.05 was considered significant. For continuous variables, mean and standard deviation were used to present the data.

Results

A total of 400 married women from 12 different primary health centres were approached to participate in this study. All of them agreed to take part in the study leading to a response rate of 100%. The mean age of the participants was 31 ± 6 years and the marriage duration median was 6 ± 6 years. The socio-demographic characteristics of the participants are shown in Table 2 .

Almost all of the participants (n=397; 99.2%) reported that they had heard about family planning. More than half (n=225; 56.3%) knew that family planning is to plan for pregnancy before it happens and only 0.8% (n=3) did not know its meaning. The pill was the most commonly known contraception method (n=383; 95.8%), followed by intrauterine contraceptive device (n=373; 93.3%), withdrawal (n=373; 93.3%), condom (n=365; 91.3%), and injectable (n=362; 90.5%), while vaginal cream (n=67; 16.8%), emergency contraception (n=57; 14.3%) and hormonal patch (n=4; 1%) were the least heard about methods (Figure 1). The participants mentioned several sources of information on family planning methods, where medical services were the most common source (n=222; 56%) followed by family members (n=153; 38%) and friends (n=88; 22%).

Among the 397 women who knew about contraceptive methods, three quarter (n=307; 76.8%) reported an ever use of these methods while around half (n=214; 54%) were current users of contraception. Among the current users of contraception, withdrawal was the most commonly used method (n=70; 32.7%) while breastfeeding was the least used method (n=3; 1.4%) (Figure 2).
Most of the current users (n=167; 78%) stated that birth spacing is the main reason for using contraception followed by medical indications and conditions (n=49; 23%) and physician's advice (n=19; 9%). A small proportion (n=17; 8%) stated that their family size was complete. Only 4% (n=8) used contraceptives due to family economics.

The majority of current users of contraception (n=132; 62%) reported experiencing one or more side effects from the method used. The most reported side effects in general were back pain (n=40; 30%), period disturbances (n=37; 28%), mood swings (n=30; 22%), weight gain (n=28; 21%), headache (n=26; 20%), and interruption of intercourse (n=26; 20%). Almost one third (n=91; 30%) of those reported an ever use of contraception (n=307) fell pregnant while using a particular method. These methods were withdrawal (n=41; 45%), the pill (n=15; 16%), and condoms and calendar (n=13; 14%). However, women who were non-current users of contraception were either pregnant (n=80; 43%), wanted more children (n=35; 19%) or were convinced that they do not need contraception (n=32; 17%).

Women's practice and attitude towards the use of family planning methods

A chi square test was used to examine the effects of participants' categorical characteristics on their use of family planning methods. Women's age was a significant determinant of contraception use, and women over the age of 40 years (n=28; 82%) were more likely to use contraception compared to women who were less than 25 years old (n=10; 19%) (P

In contrast, women's employment did not have a significant role in women's current use of contraception (P = 0.94). Women's level of education was found to be of borderline significance towards their family planning practice; 57% (n=108) of women with high level of education were users of contraception compared to only 46% (n=18) of users among women with primary level of education (P = 0.045). Similarly, husband's age had a borderline significance (P = 0.048) (T able 3
).

The majority of husbands of the surveyed women (n=364; 91%) had a positive attitude towards family planning. The great majority of women who have used contraception (n=316; 79%) have discussed the method with their partners and most of them (n=246; 78%) agreed on its use. Only 2% (n=6) of women had to hide the use of contraception from their partners.

Discussion

The present study has shown that the vast majority of women (n=397; 99.2%) have heard about family planning methods and 56.3% knew its meaning. The most commonly known methods were pills, intrauterine device and withdrawal. This is fairly similar to what is reported in the Middle East region (8–10). Even though the vast majority of women knew about the different methods available, one third of the current users preferred the withdrawal method. This suggests that many are motivated to space their children but are using less effective traditional methods. Hence, it is important for the health services to find ways to encourage them to use more effective long acting methods. Participants relied mainly on healthcare services for information on family planning methods as well as family and friends. This clearly demonstrates the important role of health services in providing advice on family planning and influencing the use of contraception. Therefore, health education on this matter should be provided extensively and simultaneously to clients and the community as a whole and stress on the availability of modern methods. Medical staff should have a positive attitude and must encourage their clients to talk more freely about these methods.

This study showed that 76.8% of women have previously used contraception and 54% are currently using them. According to the United Nations (UN) estimates of contraceptive prevalence, 64% of women in almost all regions of the world are using some form of

contraception. However, the rates of contraception usage in the Arab countries vary considerably. The usage of contraception was found to be high in countries such as Bahrain (66.0%), Lebanon (63.0%) and Jordan (61.8%), while lower rates have been reported in other countries such as Yemen (37.6%) and Saudi Arabia (36.8%). In comparison to other geographic areas, contraceptive use is much higher in Eastern Asia (82%), Northern Europe (77%), North America (75%), and South America (75%) and particularly low in Africa in general (33%); Sub-Saharan Africa (28%), Middle Africa (23%) and Western Africa (17%) (11). This variation could be attributed to a variety of reasons including cultural, social, religious and political.

In the current study, women who were using contraceptives have mainly used the withdrawal method (33.0%) followed by condoms (20.0%), pills (18.7%) and intrauterine contraceptive devices (IUCDs) (14.5%). Most of the participants mentioned that birth spacing is the main reason for using contraception and few admitted that they have completed their families and did not want more children. This finding varies from what is observed in neighbouring countries where women relied heavily on modern methods (12–13).

Globally, it is estimated that 57% of women of reproductive age use a modern method of family planning (11). In addition, this study reveals that 45% of women who relied on the withdrawal methods admitted getting pregnant while on the method compared to only 16% of women on the pill. These figures are alarming and warrant urgent action to increase awareness on modern contraceptive methods and the options available. Proper counseling and health education about the correct use of contraception methods are very important and should be stressed by health services and medical workers, particularly when using the pill, which has a failure rate of less than 1% if used correctly (4). Furthermore, further research is required to assess the actual reasons why women are reluctant to use modern methods. A possible reason is that these estimates are probably lower than those in reality since couples can easily obtain these contraceptive methods over the counter without a prescription and/or simply from the widely accessible private clinics. In addition, couples might be avoiding these methods because of the possible side effects. This is very likely as a large proportion of women on contraception (62%) admitted experiencing some side effects including back pain, period disturbances and mood swings.

Women’s age, duration of marriage and family income were significant determinants of contraception use. The usage of contraception was more common among women older than 40 years, married for more than 15 years, and with higher household income. These findings are consistent with studies reported in Qatar (12), United Arab Emirates (13), Jordan (9) and Saudi Arabia (14). This is expected since the older the woman and the longer the marriage, the more likely that fertility goals have been achieved and the desired number of children reached. Moreover, high income influences economic development and leads to easy availability of information and accessibility to these methods, thus increasing the potential of using these

means.

In addition, women's employment did not have a significant association with the use of contraception. This result is in contrast to the findings reported by a previous study conducted in Oman as well as other studies in the region (14). Interestingly, women's level of education and husband's age were found to be of borderline significance, even though similar studies in the region have shown its importance in determining the use of contraception (9,12,13). However, several studies conducted in India showed that education was not positively associated with contraceptive use (15,16). In general, education level and employment status are two important indicators of women's empowerment, hence increasing the likelihood of their use of family planning methods (8,17).

Limitations

The reported proportion of contraceptive users might be overestimated as women in the extended community are expected to use clinical services and family planning less frequently and the types of contraceptive methods available are diverse

Furthermore, this study was conducted in one region of the country (Muscat) and the transferability of the findings on the determinants of contraceptive use to the wider population is unknown, given their diverse educational, employment and social status to that of Muscat region. Therefore further comprehensive research will be required in order to compare the current findings to that of the wider Omani population

Conclusion

The vast majority of women were aware of family planning, and the pill, IUCD, condom and withdrawal were well-known methods. Approximately 77% of the participants had previously used contraception and 54% are current users. The participants preferred mainly traditional methods over modern methods available. A significant association was noticed between contraception use and women's age, duration of marriage and monthly family income. Healthcare providers play a key role in providing information and education about family planning. Efforts are recommended to encourage and promote the use of different birth spacing methods among women of reproductive age and increase public awareness on the important Maternal and Child Health (MCH) services.

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Prévalence du recours à la contraception et déterminants socio-démographiques associés chez les femmes à Oman

Résumé

Contexte : Le taux de fécondité à Oman est élevé, à l'instar de la situation dans d'autres pays arabes. Le gouvernement d'Oman a effectué d'importantes améliorations dans la mise à disposition de méthodes contraceptives afin de répondre à la demande croissante.

Objectifs : La présente étude avait pour objectif d'établir la prévalence du recours à la contraception et de cerner les déterminants socio-démographiques associés chez des femmes omanaises mariées.

Méthodes : Une étude transversale a été réalisée dans 12 centres de santé choisis aléatoirement dans chaque circonscription (Wilayat) de la région de Mascate. Au total, 400 femmes âgées de 18 à 49 ans n'ayant pas atteint la ménopause ont passé un entretien face-à-face. Des informations ont été obtenues sur les caractéristiques socio-démographiques et les pratiques de planification familiale.

Résultats : La majorité des femmes (n=397; 99,2 %) avaient entendu parler de la planification familiale. Plus de la moitié d'entre elles ((n=225; 56.3 %) connaissaient la planification familiale et seulement trois d'entre elles (0,8 %) ne savaient pas ce dont il s'agissait. La pilule était la

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méthode la plus couramment connue (n=383; 95.8 %) tandis que la crème vaginale était la méthode la moins reconnue (n=67; 16.8 %). La plupart des participantes (n=307; 76,8 %) ont déclaré avoir déjà utilisé ces méthodes et 54 % (n=214) étaient des utilisatrices au moment de l’étude. Le retrait était la méthode la plus fréquemment utilisée (n=70 ; 32,7 %) et l’allaitement au sein était la méthode la moins utilisée (n=3 ; 1,4 %). L’utilisation des contraceptifs augmentait de façon significative avec l’âge (p

Conclusions : Les prestataires de soins de santé jouent un rôle clé dans l’information et l’éducation sur la planification familiale. Des efforts sont recommandés pour éduquer les couples et promouvoir l’utilisation des différentes méthodes de planification familiale.

معدل انتشار استخدام وسائل منع الحمل والعوامل المحددة له من الناحية الاجتماعية والسكانية بين النسا ء في عُمان

رحمة محمد الكندي، هناء حارب السمري

الخلاصة

: يعد معدل الخصوبة في عُمان مرتفعًا، كما وُجِدَ ذلك أيضًا في البلدان العربيةالخلفية
الأخرى . قامت حكومة عُمان بإدخال تحسينات كبيرة في توفير وسائل منع الحمل استجابة
للطلب المتزايد .

: هدفت هذه الدراسة إلى معرفة معدل انتشار استخدام وسائل منع الحمل وتحديدالأهداف
العوامل المحددة له من الناحية الاجتماعية والسكانية بين النساء العُمانيات
المتزوجات .

: أُجريت هذه الدراسة الاستقصائية المقطعية في 12 مركزًا صحيًا تم اختيارهمطرق البحث
بعشوائية من كل ولاية في محافظة مسقط . وخضعت 400 امرأة تتراوح أعمارهن بين 18 و49 عامًا
ولم ينقطع الطمث لديهن إلى مقابلة شخصية مباشرة . وتم الحصول على معلومات بشأن الخصائص
الاجتماعية والسكانية وممارسة تنظيم الأسرة .

النتائج : سمعت أغلب النساء (99.2% ؛ 397=n) عن تنظيم الأسرة . وعرفت ما يزيد عن نصفهن
هذا معنى يعرفن لم (0.8%) فقط نساء وثلاثة ،الأسرة تنظيم بشأن معلومات (n=؛ 225 56.3%)
المصطلح . وكانت الوسيلة الأكثر شيوعًا هي حبوب منع الحمل (95.8% ؛ 383=n) ، بينما الكريم
المهبلي كان الوسيلة الأقل شيوعًا (16.8% ؛ 67=n). وذكرت معظم المشاركات (76.8% ؛ 307=n)
استخدامهن لهذه الوسائل في السابق، بينما لا تزال (%54 ؛n=214) يستخدمن هذه الوسائل في
الوقت الحالي . وكان العزل (قذف خارج الرحم لمنع الحمل) هو الوسيلة الأكثر استخدامًا

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(n= 70 32.7%) (n= 3 1.4%). P)

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